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TO: Oregon Metals Industry Council

FROM: Joseph Cortright, Impresa

RE: Metals Industry Economic Impact and Supplier Linkages In Oregon

Summary

This memorandum summarizes Impresa's analysis of the metals industry in Oregon. It defines the scope of the metals industry and identifies industry segments.

Oregon's metals industry consists of more than 1,700 firms, directly employing more than 55,000 workers. The average pay level for the metals industry is $35,000 per year, about one-third more than the average for all workers in the Oregon economy. Metals industry firms are involved in a diverse range of activities including primary metal production, manufacturing of fabricated components, designing and building a wide range of specialized machinery and transportation products including trucks, railcars, ships, and aircraft components. In addition to the direct economic impact provided by payrolls, metals firms play an important role in providing demand for products and services produced by other Oregon businesses. Collectively, we estimate that Oregon metals businesses spend about $4.3 billion annually on such purchases, with the heaviest purchases including intra-industry sales of metals industry products, business services, energy and transportation. A significant but unknown amount of such purchases are from other Oregon businesses.

Oregon's metals industry has outperformed the nation during the recent economic expansion. While the metals industry nationally has seen declining employment levels over the past five years, employment in Oregon metals firms has increased. Oregon's metals industry is also predicted by the state economist to outperform the nation's metals industry in the years ahead.

This memorandum is divided into five principal parts. Part one describes the major components of the metals industry in Oregon. Part two examines the size structure of the metals industry. Part three looks at the industry's performance over the past several years (and its projected future performance). Part four examines the location of the metals industry within the state, while part five explores supplier relationships in the metals industry.

1.0 Industry Definition

For purposes of this report, we have defined the metals industry as including four major two-digit standard industrial classifications: SIC 33 (Primary Metals), SIC 34 (Fabricated Metals), portions of SIC 35 (Non-electrical machinery, but excluding computers, SIC 357), and SIC 37 (Transportation Equipment). This definition of the metals industry incorporates many, though not all of the firms directly associated with the metals industry in Oregon. The reason for grouping these firms as an industry stems in part from supplier-consumer relationships between firms in these segments. Primary metals firms are frequently suppliers to fabricated metals firms; fabricated metals firms supply products to firms in non-electrical machinery and transportation equipment. The presence of a concentration of these firms in a particular area provides significant competitive advantages for all the firms located there.

Several other industries should be considered part of the metal industry as well. In the wholesale trade sector of the economy, metals service centers (SIC 5051) and waste and scrap dealers (SIC 5093) play key roles in the distribution of finished products and raw materials. We have grouped the industry into four major segments, based on standard industrial classification codes. While the standard industrial classification code is useful for defining the outer boundaries of the metals industry, it is important to recognize that within the industry there are many distinct industry segments with radically differing markets, technologies, competitors and supplier relationships. We explore these relationships in the input-output analysis, section 5.

2.0 Industry Structure

2.1 Employment Data

Oregon's metals industry directly employs more than 55,000 workers in the state. Employment is fairly evenly divided into four major categories as shown in table 1.

Table 1
Statewide Covered Employment in Metals Industry, 1996

SIC	Industry	Employment
33	Primary metal industries	11,028
34	Fabricated metal products	13,810
35*	Industrial machinery & equipment	14,972
37	Transportation equipment	15,508
	TOTAL	55,318

Source: Impresa calculations from 1996 Oregon Covered Employment and Payrolls data collected by the Oregon Employment Department. Note: SIC 35 excludes computers, SIC 357.

2.2 Sales

We estimate that collectively, Oregon metals industry firms had over $8.5 billion in sales in 1996. Detailed sales data are collected by the US Bureau of Census every five years as part of the Census of Manufactures. The latest data, reported for 1992, are shown in Table 2. Total industry sales in that year were nearly $5.9 billion.

In 1992, average sales for the industry were approximately 4.38 times employee payroll. Assuming that the relationship between employee payroll and sales remains constant over periods of less than five years for the industry as a whole, we can estimate 1996 sales based on the change in payroll over that time. The Employment Department reports that total metals industry payroll in 1996 was $1.96 billion. Multiplied by 4.38, this produces an estimate of roughly $8.5 billion in annual sales for the metals industry in 1996.

Table 2:
1992 Oregon Metals Industry Sales

SIC	Segment	Sales (thousands)
33	Primary metal industries	1,576,900
34	Fabricated metal products	1,185,100
35*	Machinery	1,219,800
37	Transportation equipment	1,883,800
	TOTAL METALS Industry	5,865,600

U.S. Census Bureau, 1992 Census of Manufactures. Note: SIC 35 excludes computers, SIC 357.

2.3 Location Quotient Analysis

Oregon's mix of industries is different from the mix found nationally or in other states. Some industries are more concentrated in Oregon than they are in the nation as a whole, others are less concentrated here. The extent to which the Oregon economy's mix of industries resembles the national mix can be analyzed by computing the location quotient of each industry.

The location quotient is the ratio of the fraction of economic activity accounted for by a particular industry in a region, divided by the fraction of the national economy accounted for by that same industry. If an industry accounts for the same fraction of the regional economy that it does the national economy, we say that it has a location quotient of 1. For example, if the share of regional employment made up by apparel and accessory stores was 1.01% in Portland and 1.01% nationally, then the location quotient for this industry would be one. Industries with that make up a larger fraction of the local economy than they do of the national economy have a location quotient larger than one. For example, in the metropolitan area, crop production makes up 1.34% of the Portland economy by only.45% of the US economy, which means that the location quotient for crop production in Portland is 2.98--so the industry is about three times more concentrated in Portland than it is on average in the US economy.

Among two-digit industries shown in table 3, location quotients range from .77 for the transportation equipment industry (indicating that transportation equipment production is about three-quarters as concentrated in Oregon as it is nationally, to 1.58 for primary metals (meaning that primary metals production is more than one and one-half times more concentrated in Oregon than elsewhere.

Table 3:
Location Quotients for Major Segments of the Oregon Metals Industry, 1996

SIC	Segment	% of Oregon	% of US	Location Quotient
33	Primary metal industries	0.75%	0.47%	1.58
34	Fabricated metal products	0.94%	0.90%	1.04
35*	Machinery	1.02%	1.13%	0.90
37	Transportation equipment	1.06%	1.36%	0.77
	Total Metals Industry	3.77%	3.87%	0.97

Source: Impresa calculations from 1996 Oregon Covered Employment and Payrolls data collected by the Oregon Employment Department and from national covered employment and payroll data published by the U.S. Department of Labor. Note: SIC 35 excludes computers, SIC 357.

Table 4 shows location quotients for industries in Oregon computed at the four digit level. This shows the particular kinds of products in which Oregon metals producers are most heavily concentrated. Oregon has very high location quotients in saw-blades, woodworking machinery, and cutlery, a variety of ferrous and non-ferrous foundries and aluminum smelters, and in motor homes and travel trailers.

Table 4:
Oregon Metals Industry Segments with High Location Quotients, 1996

SIC	Industry	LQ
3425	Saw blades & handsaws	13.4
3369	Nonferrous foundries, nec	11.5
3553	Woodworking machinery	10.9
3339	Primary nonferrous metals, nec	10.8
3324	Steel investment foundries	9.7
3716	Motor homes	5.5
3421	Cutlery	4.9
3792	Travel trailers & campers	4.4
3313	Electrometallurgical products	4.4
3325	Steel foundries, nec	4.0
3364	Nonferrous die-casting ex aluminum	3.2
3743	Railroad equipment	2.7
3334	Primary aluminum	2.4
3537	Industrial trucks & tractors	2.3
3556	Food products machinery	2.0
3366	Copper foundries	1.9
3499	Fabricated metal products, nec	1.8
3561	Pumps & pumping equipment	1.6
3554	Paper industries machinery	1.6
3593	Fluid power cylinders & actuators	1.5
3535	Conveyors & conveying equipment	1.4
3728	Aircraft parts & equipment, nec	1.4
3441	Fabricated structural metal	1.4
3498	Fabricated pipe & fittings	1.3
3799	Transportation equipment, nec	1.2
3354	Aluminum extruded products	1.2
3365	Aluminum foundries	1.2
3442	Metal doors, sash, & trim	1.2

Note: SIC: Standard Industrial Classification; LQ: Location Quotient; nec: not elsewhere classified.
Source: Impresa calculations from 1996 Oregon Covered Employment and Payrolls data collected by the Oregon Employment Department and from national covered employment and payroll data published by the U.S. Department of Labor. Note: SIC 35 excludes computers, SIC 357.

3.0 Industry Performance

3.1 Employment Size and Growth

Oregon's metals industry has added nearly 7,500 employees in the six years from 1990 to 1996. Nearly half of the industry's growth has been in the fabricated metals sector. Growth has been slowest in the primary metals sector.

Table 5:
Job Growth in the Oregon Metals Industry, 1990 to 1996

	1990	1996	Change
Primary metal industries	10,926	11,028	102
Fabricated metal products	10,712	13,810	3,098
Industrial machinery & equipment	12,743	14,972	2,229
Transportation equipment	13,526	15,508	1,982
	47,907	55,318	7,411

Source: Impresa calculations from 1996 Oregon Covered Employment and Payrolls data collected by the Oregon Employment Department. Note: SIC 35 excludes computers, SIC 357.

Judged in terms of employment growth, every segment of the Oregon metals industry has outperformed the nation during the decade of the 1990s. Table 6 shows the comparative annual employment growth rates for each of the major segments of the metals industry over the first five to six years of the 1990s. While the industry as a whole has declined by an average of almost 1% per year over the first half of the decade, Oregon employment in the metals industry has risen by almost 2.4% per year. Oregon growth has been particularly strong in fabricated metals and industrial machinery and equipment; Oregon's transportation equipment sector has been the mirror image of the national sector, increasing 2.3% per year at a time the entire industry was contracting about that amount.

Table 6
Metals Industry Annual Employment Growth Rate for the 1990s

SIC	Segment	US	Oregon
33	Primary metal industries	-1.4%	0.2%
34	Fabricated metal products	0.1%	4.2%
35*	Industrial machinery & equipment	0.6%	2.7%
37	Transportation equipment	-2.7%	2.3%
	Metals Industry Totals	-0.9%	2.4%

Source: Impresa calculations from state and national covered employment and payroll data. Note: US data is for 1990 through 1995, Oregon data is 1990 through 1996. SIC 35 excludes computers, SIC 357.

3.2 Shift-Share Analysis

Shift share analysis is analogous to market share. We examine what fraction of total US metals industry employment was located in Oregon, and comparing data for different years, look at trends in share. A rising share indicates that Oregon firms are outperforming their counterparts nationally. Data for the 1990 to 1995 period show that Oregon firms increased their share of national industry employment in every metals industry component sector, as shown in Table 7.

Table 7:
Oregon Share of US Metals Industry Employment, 1990 and 1995

		Oregon's Share	Shift	
SIC	Segment	1990	1995	1990-95
33	Primary metal industries	1.44%	1.56%	0.11%
34	Fabricated metal products	0.74%	0.91%	0.16%
35*	Industrial machinery & equipment	0.77%	0.85%	0.08%
37	Transportation equipment	0.65%	0.83%	0.18%

Source: Impresa calculations from state and national covered employment and payroll data. Note: US data is for 1990 through 1995, Oregon data is 1990 through 1996. SIC 35 excludes computers, SIC 357.

3.3 Wage Levels

Average pay for workers in Oregon's metals industries, taken as a whole, is fully one-third higher than the average pay for all Oregon private employees. In 1996, the average Oregon metals industry worker earned about $35,400. In contrast, the average annual wage for all private sector Oregon workers was $26,450. Average annual wages vary from segment to segment in the metals industry. Primary metals production has the highest average wages at $40,400 per year; fabricated metals has the lowest, at $30,800 per year.

Table 8:
Statewide Average Annual Pay, Oregon Metals Industry, 1996

SIC	Industry	Average Annual Pay
33	Primary metal industries	$ 40,411
34	Fabricated metal products	$ 30,794
35*	Industrial machinery & equipment	$ 39,237
37	Transportation equipment	$ 35,767
	TOTAL	$ 35,397

Source: Impresa calculations from 1996 Oregon Covered Employment and Payrolls data collected by the Oregon Employment Department. Note: SIC 35 excludes computers, SIC 357.

3.3 Exports

The metals industry is a major contributor to exports originating from the state of Oregon. Over the past four years, metals industry products have accounted for between 11 and 13 percent of Oregon's total manufactured exports. In 1996, the most recent year for which data are available, more than In two segments, metals industry exports have been increasing rapidly over the past several years: primary metals exports are up 39% since 1993, while fabricated metal exports are up 46%. (Data for machinery exports are not shown because data for machinery is published in a form that includes computers).

Table 9:
Oregon Metals Export Sales To The World, By Industry Sector, 1993-96

					%Change
	1993	1994	1995	1996	93-96
Primary Metals	86,871	123,996	161,990	120,868	39.1%
Fabricated Metal Products	70,508	84,288	101,741	103,145	46.3%
Transportation Equipment	344,460	411,904	437,921	357,296	3.7%
TOTAL METALS EXPORTS	501,840	620,188	701,653	581,308	
Total Manufactured Exports	$3,967,853	$4,552,350	$6,410,109	$5,005,420	
(% of Manufactured Exports)	12.65%	13.62%	10.95%	11.61%	

Source: Exporter Location Series, Census Bureau

Published export data certainly understate the true contribution of export markets to the health of Oregon's metals industry. Many Oregon products are incorporated into finished goods that are then exported by firms in other states. For example, titanium refined by Wah Chang and cast by Precision Castparts may be sold to General Electric to be incorporated in a jet engine sold to a foreign nation. Because only GE's final sale gets counted as an export (and then an export from Ohio or Massachusetts, the location of its jet engine building facilities), neither Oregon company's product is counted as an export in any published statistics. The same is true of aircraft assemblies made by Boeing Portland, or computer cases made by an Oregon metal fabricator. Whether they export directly or not, most Oregon metals industry firms are highly influenced by the global marketplace; aluminum producers face competition on a global scale, and production decisions of multi-national corporations like Mercedes Benz (owner of Freightliner) influence the local metals industry.

3.4 Projected Future Industry Growth

Oregon's metals industry has compiled an impressive growth record during the 1990s. Will it continue? While no one knows for certain, the best available evidence on this question comes from the econometric forecasts prepared by the Office of Economic Analysis of the Oregon Department of Administrative Services. These forecasts, which are based on national projections prepared by Data Resources International and the state's own model of the Oregon economy, project employment levels by major industry sector through 2005. While econometric forecasting must be regarded as an art, rather than a science, especially during a period of apparent turmoil in worldwide financial markets, this forecast gives the best estimation of future employment levels assuming that historical trends and relationships in key economic variables continue into the future.

The Office of Economic Analysis's September, 1998 forecast for the metals and transportation equipment sectors is shown in Table 10. The forecast model combines the primary and fabricated metals sectors for estimation purposes. (Because the Office doesn't separately forecast the computer segment separately from non-electrical machinery, we haven't examined the forecast for SIC 35, which in Oregon is dominated by expected future changes in computer industry employment.) Data for 1995 through 1997 are actual; numbers from 1998 onward are projections. All figures shown are annual percentage changes in employment.

Oregon's metals and transportation equipment sectors have plainly out performed their national counterparts through 1997. Both segments chalked up employment growth in excess of 7% in 1997. After 1998, however, growth rates are expected to be sharply lower, based largely on a dramatic slowdown (though not a recession) in the state and national economies. Growth is expected to slow sharply, first in metals (dropping to less than 1% per year in 1999) and then in transportation equipment (a one percent employment decline in 2000); with both sectors contracting in 2001 and 2002. Growth is expected to return toward the end of the forecast period, although at far more modest levels than we have recently experienced. The favorable news in this forecast is the prediction that Oregon's metals and transportation equipment sectors are expected to perform much better than their counterparts nationally. In 1999, for example, Oregon metals employment is still expected to increase, while the industry contracts nationally. In transportation employment, Oregon is expected to grow at a robust 5 percent rate while the nation's employment increased only 1.4%.

Table 10
Actual and Forecast Employment Growth Rates, 1995 to 2005
Metals and Transportation Equipment Sectors

	Metals			Transportation Equipment		
	Oregon	US	Difference	Oregon	US	Difference
1995	11.0%	3.0%	8.0%	3.3%	1.7%	1.6%
1996	2.6%	0.5%	2.1%	2.4%	-0.3%	2.7%
1997	7.2%	1.2%	6.0%	7.1%	3.2%	3.9%
1998	5.4%	0.2%	5.2%	7.8%	1.4%	6.4%
1999	0.9%	-1.6%	2.5%	5.1%	0.7%	4.4%
2000	1.2%	0.3%	0.9%	-1.1%	-1.8%	0.7%
2001	-0.2%	-1.1%	0.9%	-1.1%	-2.7%	1.6%
2002	-0.2%	-1.1%	0.9%	-0.6%	-2.5%	1.9%
2003	0.8%	-0.2%	1.0%	1.5%	-0.5%	2.0%
2004	0.9%	0.8%	0.1%	2.9%	0.0%	2.9%
2005	0.6%	1.0%	-0.4%	3.5%	0.5%	3.0%

Source: Oregon Department of Administrative Services, Oregon Economic and Revenue Forecast, September, 1998. Note: Metals includes SIC 33 and SIC 34. Transportation Equipment in SIC 37. Separate estimates for the metals portion of SIC 35 that excluded SIC 357 were not available as part of this forecast.

Economic forecasts are, at best, educated guesses about future economic activity. They are always subject to some uncertainty, never more so than at times when the national (and international) economy seems headed for a sudden slowdown. This forecast continues to assume that state and national economies will continue to avoid a recession, a more severe general slowdown would undoubtedly result in lower employment growth than shown in this forecast.

4.0 Industry Location

Oregon's metals industry is heavily concentrated in the Portland metropolitan area. Overall, roughly two-thirds of all metals industry employment--36,600 of a total of 55,300 workers--is concentrated in Portland. Firms in the Portland area benefit from the close location of customers and suppliers as well as the region's easy access to national and international transportation systems. Portland also has a large and diverse labor market for meeting the skill needs of metals industry employers.

As Table 11 shows, each of the major segments of the metals industry are about equally concentrated in the Portland Metropolitan area, ranging from 59% of primary metals production to 70% of fabricated metals production. The fact that roughly similar shares of each industry are located in the same place is an indication of the strong inter-relationships between these industry segments. Metals is more concentrated in Portland than the average of all industries statewide. The Portland metro area accounted for about 52% of the state's covered employment in 1996.

Table 11: Geographic Distribution of Oregon Metals Industry Employment
Portland and Balance of State, 1996

SIC	Industry	Portland	Oregon	% Portland
33	Primary metal industries	6,458	11,028	59%
34	Fabricated metal products	9,718	13,810	70%
35*	Industrial machinery & equipment	10,404	14,972	69%
37	Transportation equipment	10,048	15,508	65%
	Total	36,628	55,318	66%
Related Sectors				
5051	Metals Service Centers	1,029	1,717	60%
5093	Scrap Dealers	1,185	1,439	82%

Source: Impresa calculations from 1996 Oregon Covered Employment and Payrolls data collected by the Oregon Employment Department. Note: Portland area includes five Oregon counties of the Portland MSA: Clackamas, Columbia, Multnomah, Washington, Yamhill. SIC 35 excludes computers, SIC 357.

While the metals industry is heavily concentrated in the Portland area, there are other geographical centers of the industry, mostly in the Willamette Valley. Linn County is the single largest concentration of primary metals firms outside the Portland metro area. Marion county has over 1,500 employed in the fabricated metals industry. Lane County has about 2,600 workers in fabricated metals and transportation equipment. In addition, Jackson, Wasco, Deschutes and Douglas Counties, all outside the Willamette Valley, have locally significant concentrations of metals industry production. The Portland metropolitan area also accounts for about two-thirds of the closely allied wholesale sectors--metals service centers and scrap dealers.

Counties with significant concentrations of Metals Industry Employment

- Linn County (2,300 workers in primary metals, 800 workers in transportation equipment)
- Marion County (1,550 workers in fabricated metals)
- Lane County (1,740 workers in transportation equipment, 900 workers in fabricated metals)

5.0 Industry Linkages

Oregon's metals industry is an important contributor to the regional economy not just because of its direct employment of Oregonians on the payrolls of metals firms, but also because metals industry purchases of goods and services are an important source of demand for the output of other Oregon businesses. National-level input output data suggest that payrolls are equal to about only 25 percent of firm revenues in the metals industry, meaning that most of the economic impact of these businesses is in the form of flows of money to vendors, suppliers and capital owners, at least some of whom are located in Oregon.

Table 12 shows estimates of the volume of purchases by Oregon metals producers in 1996. This table is based on 1992 national-input output relationships for the metals industry. (Actual input-output calculations were by further dis-aggregating the metals industry into seventeen sub-sectors, calculating patterns of inter-industry purchases weighted according to the share that each of theses seventeen subsectors represents of the Oregon metals industry, and then re-aggregating the results into the four categories shown in the columns of Table 11). Input-output flows were estimated for Oregon based on the assumption that the volume and character of purchases was proportional to Oregon payrolls, adjusted for a payroll overhead of 30 percent, reflecting payroll taxes and all benefits.

Figures in each column in Table 12 represent the amount of goods listed in each row purchased by the industry in 1996. For example, the fabricated metals industry purchased an estimated $343 million in output from the primary metals industry in 1996. The figures shown in Table 11 show only the purchases of materials from other industries and exclude employee compensation and return to capital (profit, dividends, interest costs and depreciation expense).

Table 12:
Estimated Purchases, Oregon Metals Industry, 1996
Gross Purchases in Million of Dollars

Input	Purchasing Sector				
	Primary Metals	Fabri-cated Metals	Machi-nery	Transp. Equip.	Total
Primary Metals	630.0	343.0	192.2	85.1	1,250.3
Fabricated Metals	91.1	96.5	119.7	29.6	336.9
Machinery	91.3	65.8	298.4	141.7	597.2
Transp. Equip.	-	-	3.1	508.0	511.1
Business Services	89.3	91.7	145.2	136.6	462.8
Transportation	117.1	32.6	34.4	40.9	224.9
Energy	146.2	31.6	27.3	14.3	219.3
Raw Materials	204.0	-	-	-	204.0
Rubber & Plastics	33.3	33.3	51.2	76.6	194.4
Miscellaneous	39.6	27.8	54.3	60.7	182.4
Electronics	3.3	-	19.2	84.2	106.7
Chemicals	10.0	25.5	5.0	14.3	54.7
Utilities	7.7	1.4	-	-	9.1
Total	1,462.8	749.2	950.0	1,191.9	4,353.9

Note: Computed from 1992 National Input Output tables, adjusted for Oregon metals industry sectoral composition. Purchases do not include wholesale markups/distribution margins, employee compensation and value-added (return to capital). Purchases are from all sources, whether located in Oregon or elsewhere.

Table 13:
Composition of Estimated Purchases, Oregon Metals Industry, 1996
Purchases by category as a percentage of all purchases

Input	Purchasing Sector				
	Primary Metals	Fabri-cated Metals	Machi-nery	Transp. Equip.	Total
Own Segment	43%	13%	31%	43%	35%
Other Metals	12%	55%	33%	22%	27%
Bus. Services	6%	12%	15%	11%	11%
Energy	11%	4%	3%	1%	5%
Transportation	8%	4%	4%	3%	5%
Raw Materials	14%	0%	0%	0%	5%
Rubber & Plastic	2%	4%	5%	6%	4%

	Purchasing Sector				
All Other	4%	7%	8%	13%	8%

The purchasing data show the tight inter-linkage between different segments of the metal industry. For every major segment of the industry except fabricated metals, purchases from other firms in the same segment were the single largest source of inputs. Hence, firms want to be located near other firms in the same segment who are either suppliers of related components, customers for their products, or both. Overall, about 62% of the purchased inputs (that is, excluding labor, capital and wholesale markup) were purchased from other firms in the metals industry.

Purchasing patterns vary substantially by industry segment. Primary and fabricated metals are the most tightly linked, machinery and transportation equipment less so.

Primary metals producers have the highest relative costs of raw materials (metal ore and scrap), energy, and transportation costs. As the most "upstream" producer of those shown, they purchase the least from other segments of the metals industry.

Fabricated metal producers get nearly half of all of their inputs from primary metals producers. Other relatively large purchases include business services. Transportation and energy costs are much smaller for fabricated metals firms than for primary producers.

Machinery producers are major consumers of primary and fabricated metal products. Outside the metals industry, business services, like engineering, marketing, legal and accounting services are their largest purchases. They have relatively much lower costs for energy and transportation than primary metals producers.

Transportation equipment manufacturers are perhaps the least connected to the metals industry of all the segment shown here. Outside of own-segment sales, their largest purchases are from other metals firms (chiefly machinery and primary metals), but these purchases account for only about 22% of purchased inputs. A range of other manufactured inputs including rubber and plastic products, electronics and other components are relatively more important.